

# **NB3-21C: Creating a 21<sup>st</sup> Century Learning Model of Public Education**

## **Three-Year Plan 2010-2013**

Department of Education (Anglophone Sector)

September 15, 2010







A hand in a patterned sleeve points towards the Earth from space. The Earth is a large, curved sphere with green landmasses and blue oceans, set against a dark background of stars and a bright light source on the left.

# We are the future.

You will know we are ready when we are:

- Highly skilled in literacy, mathematics and scientific thinking
- Critical thinkers and creative problem solvers
- Collaborators
- Skilled communicators
- Resourceful, reliable, resilient and physically active
- Involved in our communities and connected to the world



## Deputy Minister's Message

The 21<sup>st</sup> Century belongs to New Brunswick, if we are wise enough to seize the moment.

Today, we are living in the early years of the Digital Age, where innovation and the ability to attain and apply knowledge are the keys to success. In the Digital Age, a well-educated society is the prerequisite to economic success, social progress and personal empowerment. And global economic research is clear: investments in learning will show the highest return of any public spending.

International learning research and experience tell us that the need for action is urgent. We are already a full decade into the 21<sup>st</sup> Century and change is upon us. If we are to position our children for their future, we must create innovative and ICT-rich learning environments today. We must develop a global vision, and part of that vision must include high expectations for our children and our grandchildren.

We **can** expect greatness in this century because New Brunswick is well positioned to be a world leader in learning. We are small enough to engage all our citizens in deciding our own future, and we are bold enough to think beyond our borders. These are our greatest assets and they will enable us to shift our education system to a 21<sup>st</sup> Century learning model in time to meet the needs of our students and our province.

New Brunswick must pursue a *learning culture* and engage in an open dialogue on how best to make learning a societal priority. To ensure that public education officials add their voice to the dialogue, officials in the Anglophone Sector have developed **NB3-21C: Creating a 21<sup>st</sup> Century Learning Model of Public Education**. This plan expresses our perspective on the key priorities in public education. In the months ahead, we will continue to actively engage our learning partners and stakeholders on the NB3-21C agenda, and together we will shift New Brunswick's public education system to a 21<sup>st</sup> Century learning model.

John Kershaw  
*Deputy Minister of Education*  
*Anglophone Sector*





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## Assistant Deputy Minister's Message

Educators face a daunting challenge to prepare our children for a future that we can only imagine. The Anglophone Sector of the Department of Education believes that time is critically short for meeting this challenge. With a sense of urgency, we have developed this draft of a three-year plan to shift our goals and practices into a 21<sup>st</sup> Century focus.

This plan is the culmination of intense effort and collaboration by educators committed to excellence in education. They have gathered best practices, cutting-edge research and expert advice from across North America and beyond and combined it with local experience to create a plan that addresses the educational needs of New Brunswick students.

We have great plans and expectations for education in the coming years. Be part of the excitement. Join us in the move to transform public education.

David Roberts  
*Assistant Deputy Minister  
Anglophone Sector*



## District Superintendents' Message

The knowledge and skills that New Brunswick students have traditionally acquired in school are still important; however, the 21<sup>st</sup> Century will expect more from our graduates. Students must not only learn information but also be able to access new information and evaluate what they find. It will not be enough to have a specific skill; students will require experience in learning new skills quickly and often. "Standing out from the crowd" will be less important than communicating and collaborating with the crowd. Our graduates will have to be creative, critical thinkers who have the confidence to face a future that we can only imagine.

This plan outlines the key shift elements and strategies we have identified as an officials' perspective and starting point for consultation. Please join us as we begin this journey.

Endorsed by all nine anglophone superintendents



## District Education Council Message

Our world—at home, work, school and play—is changing at an astonishing pace. The digital age is influencing every aspect of our society. If we are to empower our students for personal success, we must shift our public education system to a 21<sup>st</sup> Century model of learning. We need to ensure our students are fully engaged in their learning; benefit from technology-rich learning environments; and develop the competencies and skills they will need in the future, both for the workplace of tomorrow and to enrich their lives as individuals and citizens.

As representatives of the nine Anglophone Sector district education councils, we support the direction of NB3-21C. Together with parents, communities, governments and stakeholders, we believe we have the opportunity and responsibility to move this agenda forward on an urgent basis.



From top, left to right:  
Harry Doyle – *District 2*  
Robert Parkinson – *District 14*  
Micheal Mortlock – *District 15*  
Roger Nesbitt – *District 6*

Joni Donahue – *District 10*  
Marty Forsythe – *District 17*  
Jeannine St. Amand – *District 18*  
Robert Fowler – *District 8*  
Patricia Lee – *District 16*



From top, left to right:  
District 2 – *Karen Branscombe*  
District 6 – *Zoë Watson*  
District 8 – *Susan Tipper*  
District 10 – *Derek O'Brien*  
District 14 – *Lisa Gallagher*  
District 15 – *John McLaughlin*  
District 16 – *Laurie Keoughan*  
District 17 – *David McTimoney*  
District 18 – *Alex Dingwall*

## Mission Statement

To have each student develop the attributes needed to be a life-long learner, to achieve personal fulfillment and to contribute to a productive, just and democratic society.



## Jurisdictional Profile

The New Brunswick Department of Education is responsible for the public education of more than 100,000 students (Kindergarten to Grade 12) in a unique environment.

New Brunswick is the second-most rural province in Canada, with over 50 percent of its population living in a rural setting (compared with the Canadian average of 20 percent). The largely rural nature of our province helps shape our school system, influencing the size and location of schools, availability and delivery of school services and subject options, student transportation requirements, and access to extra-curricular activities.



Geographically, New Brunswick finds itself in an enviable location, midway between the major population centres of eastern Canada and the eastern seaboard of the United States. We are also a marine gateway between this continent and countries that ring the Atlantic. The opportunities that come from our central location are balanced by the challenges of a highly competitive world. New Brunswick's educational focus is defined by both our local realities and our position in the exciting and changing world of the 21<sup>st</sup> Century.

Since 1969, New Brunswick has been Canada's only officially bilingual province. The Department of Education respects this linguistic duality in two ways: by offering every student the opportunity to learn both English and French, and by operating as two parallel but separate linguistic sectors that are responsible for their own curriculum development and assessment. This three-year plan addresses the Anglophone Sector.

The Anglophone Sector is divided into nine districts. District Education Councils (DECs), consisting of locally elected members, are responsible for establishing the direction and priorities for the school district and for making decisions as to how the districts and schools are operated in consort with the district superintendents, who are responsible for the operational oversight of the school districts. At the school level, Parent School Support Committees (PSSCs) operate in an advisory capacity to principals.

The Province of New Brunswick recognizes the critical role that education plays in enhancing our position in the world. With a provincial population that has entered a period of little to no growth, we are keenly aware of the importance that every graduate of the New Brunswick school system be equipped with all of the skills necessary for success in the 21<sup>st</sup> Century.

#### **Provincial Profile – September 2008**

	<b>Number of Schools</b>	<b>Pupil Enrolment</b>	<b>Educators</b>
<b>Anglophone</b>	228	77,288	5,701.5
<b>Francophone</b>	98	31,119	2,433.7
<b>Province</b>	326	108,407	8,135.2

## Transformational Change in the 21<sup>st</sup> Century

The rapid transformation of global society in the age of knowledge and innovation is fostering a growing recognition of *learning* as the major socio-economic driver of the 21<sup>st</sup> Century. A workforce of creative, entrepreneurial, highly skilled, digitally competent and adaptable people is increasingly being recognized as the foundation for a nation's innovation: a precursor to business success in a rapidly changing global market environment. Learning systems designed to promote creativity in team settings across virtual networks will be the trademark of economically competitive and socially progressive societies in the 21<sup>st</sup> Century.

Fast-paced advancements in information and communications technology (ICT) are fuelling this rapid transformation. And the pace of change is quickening. According to Raymond Kurzweil, a well-known inventor and futurist, the exponential rate of technological growth will result in the equivalent of 20,000 years of technological growth (at today's rate) in this century! This ICT-driven tectonic shift demands that societies recognize the fundamental importance of learning in positioning their societies for prosperity and personal fulfillment in the 21<sup>st</sup> Century world. Transformation of New Brunswick's public education systems to a 21<sup>st</sup> Century learning model is required, including the creation of innovative and ICT-rich learning environments. This transformation is essential if we are to foster the required 21<sup>st</sup> Century core competencies and skill sets that will be the hallmarks of success. Societal commitment to learning will be a prerequisite to allowing successive governments to make sustained and targeted investments in public education their highest priority. The return on investment will be highly skilled and innovative citizens able to build the New Brunswick economy, pursue environmentally sustainable lifestyles, support high-quality social programs and foster free and democratic societies.

Success in the global markets and learning are now inherently linked. The knowledge economies of the 21<sup>st</sup> Century will demand highly innovative and adaptable workforces to ensure that innovation in and production of new products and provision of new services keeps pace with rapidly changing technologies, new information, and shifting consumer demands and expectations. These are global trends that are shaping learning systems worldwide. Scandinavian countries, the United Kingdom, Australia and New Zealand are already transforming their learning systems to reflect these new realities. The implications for New Brunswick are threefold. First, New Brunswick must keep pace with other jurisdictions in positioning for, pursuing and investing in the new emerging knowledge- and innovation-based economic sectors of the 21<sup>st</sup> Century. Second, New Brunswick must transform and invest strategically in learning at all levels to foster a creative, highly skilled, innovative, entrepreneurial and adaptable workforce. Third, New Brunswick must recognize that ICT-rich learning environments at all levels of education are essential to keeping pace with the realities of today's digital youth and ICT-fuelled economies.





## 21<sup>st</sup> Century Learning

Having accepted the principle that 21<sup>st</sup> Century learning will be the key ingredient to a successful economy in the knowledge and innovation age, the next logical question is what specifically needs to be done in the areas of learning in New Brunswick? Many countries have already recognized the shift to knowledge and innovation as the key input to success in the global economy and have launched research in determining how best to respond to the need to transform and enhance their learning sectors. The OECD's Centre for Education Research and Innovation has undertaken leading-edge research on the new millennium learner, both in terms of the skills they will require and the learning environments needed to foster these skills (*Innovating to Learn, Learning to Innovate, OECD, 2008*). The European Parliament has adopted eight core competencies and underlying skills it believes member states in the European Union should pursue within their public education systems. In the United States, the Partnership for 21<sup>st</sup> Century Skills, comprised of policy makers and members from the business community and education field, is advocating its Framework for 21<sup>st</sup> Century Learning and the skills contained therein. These and other think tanks and authors have identified the learning competencies and changes in instructional practices they believe to be critical in positioning individuals and societies for success in the 21<sup>st</sup> Century. All are calling for these 21<sup>st</sup> Century competencies and skills to be integrated as core outcomes of public education. Examples of these 21<sup>st</sup> Century competencies include:

- Creativity and innovation
- Critical thinking and problem solving
- Agility, adaptability and capacity for lifelong learning
- Teamwork and collaboration in virtual teams
- Initiative, self direction and entrepreneurialism
- Effective oral and written communication
- Proficiency in the mother tongue
- Multiple languages and cultural awareness
- Digital competence: the ability to effectively access and analyse information, including digital information

So what needs to happen? **NB3-21C** is a three-year plan designed to shift New Brunswick's public education system to meet the challenges and opportunities of the 21<sup>st</sup> Century. This document is an officials' perspective on what needs to change, what will be different and how people will be impacted.



We know that learning is rooted in high levels of student achievement in the three foundation subjects: literacy, numeracy and science. Our focus on improving student achievement in these three subject areas in recent years has been called **NB3**, and all are agreed that this focus must continue. A deeper understanding and ability to apply knowledge of these subject areas sets the stage for the effective development and application of the **21<sup>st</sup> Century** competencies noted earlier. Setting the foundation with NB3 while at the same time being driven to integrate 21<sup>st</sup> Century competencies into public education is why officials are calling this internal strategy **NB3-21C**. We know we must maintain our existing focus on improving student achievement in the foundation subjects even as we more deeply integrate 21<sup>st</sup> Century competencies into our system. We also believe a number of significant shifts must occur within our core business areas in order to achieve a 21<sup>st</sup> Century learning model. The *shifts* we have currently identified for consultation purposes parallel what the Partnership for 21<sup>st</sup> Century Skills in the United States is calling for; customized to our specific needs:

1. Redesigning current curricula for 21<sup>st</sup> Century learners to ensure fewer and most-relevant outcomes and standards
2. Training teachers in 21<sup>st</sup> Century instructional practices, including fully integrating ICT into pedagogy
3. School leadership pursuing 21<sup>st</sup> Century learning models in their schools
4. Creating of ICT-rich 21<sup>st</sup> Century learning environments
5. Adapting assessment models to measuring 21<sup>st</sup> Century competencies and skills.

The integration of ICT into learning is not only essential to a 21<sup>st</sup> Century learning model, it is a key enabler that will facilitate a more rapid pace to the changes required. Both ICT-rich learning environments and supporting networks will be required. ICT in classrooms is also critical to the realization of an inclusive education system, with supports such as assistive technologies and personalized learning experiences for all students enabling every child to learn and succeed at their highest possible level.

With the ever-increasing need to work collaboratively in a global work place, understanding and participating in international activities is becoming an important aspect of the educational experience. Accepting international students into the school setting not only makes the understanding of cultural similarities and differences a social experience; it enables our students to participate in global, cooperative opportunities through face-to-face interaction. All schools are being asked to consider integrating more of the existing international opportunities in their operational plans.

This document identifies the specific steps the Anglophone Sector of the Department of Education will action as we shift to a 21<sup>st</sup> Century learning model and position our students for their future, and the future of New Brunswick.

# Recent Achievements

## Focus on NB3

The Department of Education is currently focusing on literacy across all curricula, with an emphasis on developing critical literacy skills. Recent changes to New Brunswick's French Second Language programs are already strengthening communication skills and general literacy processes for our students. The K-12 mathematics curriculum is being revised, placing importance on the development of strong number sense at the primary grades with a reasonable number of key skills and concepts at each grade level. The goal is to ensure a deeper understanding of concepts while developing problem-solving and reasoning skills. Efforts are underway to ensure the teaching of science reflects an inquiry-based approach that sees students posing questions, testing hypotheses and constructing knowledge during authentic learning experiences.

## Inclusion

Within the Anglophone Sector of New Brunswick public education, we maintain our commitments to the following principles:

- Ensuring all students in our system reach their full potential
- Maintaining the deeply embedded principle of inclusive education
- Eliminating the gap in academic achievement and graduation rates between First Nations and non-First Nations students
- Ensuring all students in our system are respected as individuals and are provided with a range of programs, services and resources to meet their individual goals and needs

## School Leadership

Schools need strong leaders, and leaders need quality professional development and support. The New Brunswick Educational Leadership Academy (NBELA), in existence since 2008, offers a two-year leadership training program to selected participants who will become "leaders of leaders" and who will nurture 21<sup>st</sup> Century competencies at the provincial, district and school levels in the Anglophone Sector. New educational leadership standards are also being developed at the Atlantic Canada level and the NBELA will contribute to our efforts in implementing these within the Anglophone Sector. Recent investments in training for principals and teachers to enhance their skills as collaborators, problem solvers, researchers, informed risk takers and communicators, position them to take the lead in shaping a new 21<sup>st</sup> Century-oriented education system.

## Collaborative Approach

Over the past several years, New Brunswick educators have embraced the practices of professional learning communities. This approach is driven by three big ideas: a focus on learning, a culture of collaboration and a focus on results. The collaborative, data-based approach to improved results is endorsed by all partners: schools, districts, professional teaching associations, university faculties of education and the Department of Education. Research is persuasive that successfully implementing professional-learning-community practices is the most promising path for sustained and substantive improvement of our schools and districts. (*Revisiting Professional Learning Communities at Work*, DuFour, DuFour, & Eaker, 2008; Bloomington, IN: Solution Tree.)



### **Community Relationships**

Schools succeed as members of greater communities, both local and global. As such, they must draw on available resources and expertise from beyond the classroom walls. We are currently working with community partners to support student learning and engagement through the Community Schools program, the Elementary Literacy Friends project, and the international student program. These initiatives are helping to place education at the centre of community engagement while exposing New Brunswick students to a variety of cultures.

### **Use of Technology to Support Innovation**

Through use of Information Communications Technologies (ICT), students and educators can access a wealth of online resources and learn “anywhere, anytime.” Achievements in this area include the following initiatives:

- Significant investments have been made in ICT for educators and students in support of 21<sup>st</sup> Century learning in classrooms (e.g. laptops for teachers, interactive whiteboards, FM systems for classrooms and 1:1 laptop access for middle school students).
- The NBED Portal provides all educators access to personal and collaborative online workspaces, curriculum documents, K-12 teaching and learning resources, copyright-free images and a number of electronic libraries.
- International Projects connect our students with other students from around the world. Students gain a global perspective through these projects, which demonstrate that no matter where a community is globally located, health, safety, jobs, education and the economy are all matters of common concern.
- Through access to online courses, the Distributed Learning Program offers expanded learning opportunities for all high school students in the province and professional learning options for educators.



## Challenges Ahead

In our quest to transform learning, we face a number of challenges. Some are challenges faced by every province and every country, while others are unique to the particular circumstances of New Brunswick.

### **To enable every child to enter kindergarten prepared for learning**

The Department of Education is expanding its focus to include students yet to enter kindergarten. Currently, many children enter kindergarten without the attention span, verbal fluency, interest or letter identification skills that are essential for learning. Our challenge is to eliminate this disadvantage by providing early intervention to these children and their families.

### **To keep pace with new technologies**

In today's world, technology is an essential tool for both work and school. Our students must graduate with the skills to use current technology effectively and safely. We must also adapt our teaching strategies to make the best use of technology as a teaching and learning tool. Effective use of technology will enable us to provide greater options to students in even the smallest school, helping to minimize any differences between rural and urban schools.

### **To develop a strong learning culture**

Our children's success in school and in their later lives reflects the value that their culture places on education. Our challenge is to change our very culture: to take steps to ensure that New Brunswickers value learning, have heightened expectations for success and provide the opportunities that our students need to realize their potential. We must involve every single person and organization in this province in the creation of a learning culture that will support our students and motivate them to reach for excellence.

### **To provide the infrastructure required by a changing population**

New Brunswick is undergoing dramatic changes in its population numbers and distribution. Over the past 20 years, our province has experienced a steady drop in population and a population shift from rural to urban areas, intensified by the arrival of new immigrants who mostly settle in our cities. The Department of Education is facing the challenge of meeting the infrastructure needs of a school system experiencing the same demographic changes, including a drop of nearly 28,000 students over 20 years. The department's plan to meet this challenge focuses on three key areas:

1. Quality of infrastructure: plan for upgrades, new schools and school closures
2. New learning environments: establish new norms for 21<sup>st</sup> Century learning environments
3. The Community School concept: integrate services and programs among government departments and agencies to support schools and students

### **To match success rates in First Nations education with provincial standards**

Our challenge is to eliminate any disparity in success rates between First Nations' students and other students in New Brunswick.





## NB3-21C Competencies

The following competencies represent the 21<sup>st</sup> Century learning goals for New Brunswick students. These competencies will be developed throughout a child's school experience, beginning in kindergarten and culminating with high school graduation. A key goal of public education is to instill in students an appreciation for learning and a desire to make learning a life-long pursuit. It is the responsibility of each student, and each student's parents or guardians, school and community to collaborate in developing the personal competencies of all students. Over time, this collaboration will form the basis for a stronger culture of learning in New Brunswick.

### 1. Critical thinking and creative problem solving

Students will know and be able to use strategies and processes to think creatively, understand deeply, conduct meaningful reflection and solve problems. Through innovative ideas, entrepreneurship, and/or artistic expression, students will demonstrate that they:

- have learned the elements and processes associated with critical thinking and problem solving.
- have a deep understanding of complex concepts and the ability to work creatively in order to generate new ideas, theories, products and knowledge.
- have learned to think logically and to solve ill-defined problems by identifying and describing the problem, framing and testing hypothesis and by formulating creative solutions.
  - are exploring and developing their creative abilities and applying them in a variety of ways.
  - are able to acquire, process and interpret information critically to make informed decisions.



## 2. Collaboration

Students will be able to interact with others in generating ideas and developing products. They will use appropriate interpersonal skills within a variety of media and social contexts. Students will demonstrate that they:

- understand how to relate to other people in varying contexts, including those in which they manage or are managed by others.
- are able to collaborate across networks, using various technologies.
- are able to effectively participate as a team member and know their own capacities for filling different team roles.
- have developed proficiency in managing personal relationships.
- are able to use various means to manage conflict.
- understand the creative process through collaboration, exchange of ideas and building upon the achievement of others.
- have been sensitized to the issues and processes associated with collaborating across cultures.

## 3. Communication

Students will be able to communicate effectively using the arts; mathematical and scientific concepts and symbols; and the listening, viewing, speaking, reading and writing modes of language(s). They will communicate using a variety of media and technologies. Students will demonstrate that they:

- think divergently and creatively through use of analogies, metaphors and visual thinking.
- create, explore, reflect on and express their own ideas, learning, perceptions and feelings.
- understand ideas and relationships presented through words, actions, numbers, symbols, graphs, sound, movement, images and charts.
- have a level of proficiency in their second official language.
- manage, access, process, evaluate and present information clearly, logically, concisely, esthetically and accurately for a variety of audiences.
- critically interpret and evaluate ideas presented through a variety of media.
- acknowledge, consider and respond to different points of view.





#### 4. Personal development and self-awareness

Students will be resourceful, reliable and resilient. They will see themselves as capable learners, aware of their own potential. They will make well-informed, healthy choices that contribute to the well-being of themselves and others. Students will demonstrate that they:

- make decisions and take responsibility for those decisions.
- pursue an active, healthy lifestyle.
- have developed techniques for managing change, risk and uncertainty in a wide range of contexts.
- have persistence and determination.
- demonstrate motivation and confidence.
- acknowledge and consider different points of view.
- are able to take control of learning.
- are well positioned and prepared for post-secondary pursuits.
- have developed an awareness of cultural heritage.

#### 5. Global citizenship

Students will be able to assess social, cultural, economic and environmental interdependence in a local, national and global context. Students will demonstrate that they:

- understand the dynamic interactions of Earth's systems, the dependence of our social and economic systems on these natural systems, our fundamental connection to all living things, and the impact of humans upon the environment.
- comprehend Canada's political, social and economic systems in a global context.
- are able to critically analyze the social, political, cultural and economic forces that have shaped the past and present and apply those understandings in planning for the future.
- understand key ideas and concepts related to democracy (e.g., human rights).
- comprehend and appreciate cultural and societal diversity in local, national and global contexts.
- possess the dispositions and skills necessary for effective civic engagement.
- use creative and critical thinking to develop innovative solutions to complex societal and environmental problems.
- understand key ideas and concepts related to culture and human expression.

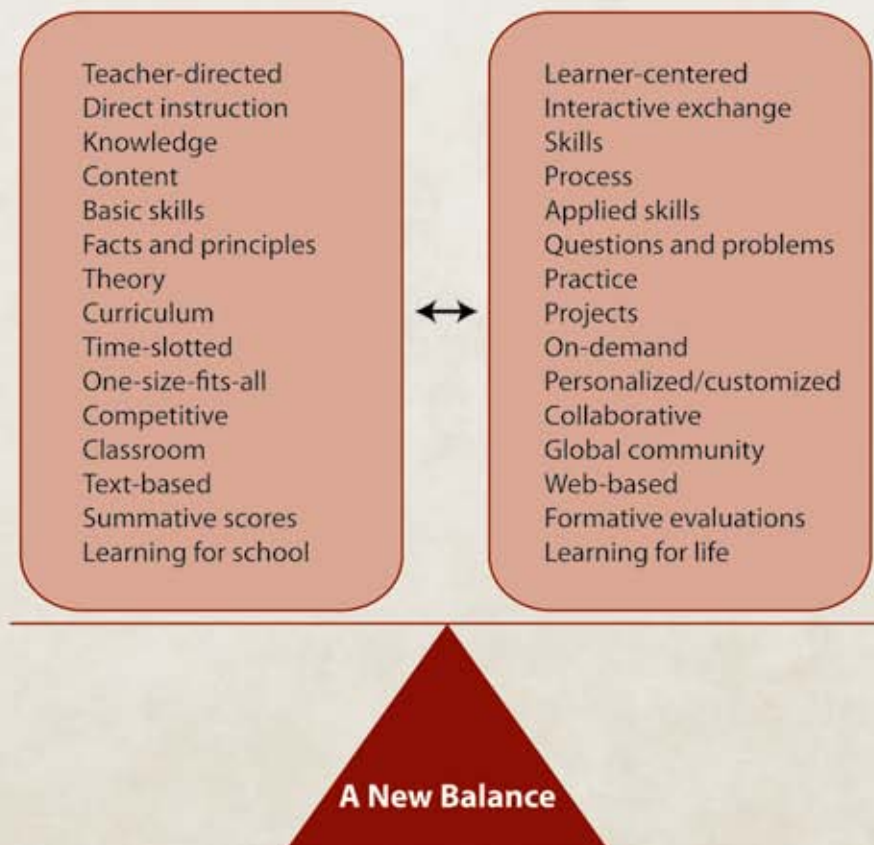


## NB3-21C: Three-Year Plan

### Making the 21<sup>st</sup> Century Shift

In order to focus on the learning needs of new millennium learners, a significant shift in our current learning model is required, touching on every one of public education's core business areas. The essence of the shift is the need to move from a teacher-directed to a learner-centred learning model. The flexible, analytical, engaged and motivated graduate who will succeed in the 21<sup>st</sup> Century is not the product of a learning environment where teachers take centre stage and students passively receive and recite information. The business of learning belongs to the student, and as such, must focus on the learner, with the teacher providing valuable supports and facilitation. The shift affects learners by engaging them in the identification of problems to be solved through learning, the researching and creation of information to solve those problems, and the analysis of the world they live in. Students develop collaborative skills as they reach out to peers and resources in the school, the community and beyond to complete real-world projects that are relevant to their own lives. True engagement of learners in the early years prepares students to be the life-long learners demanded by the 21<sup>st</sup> Century.

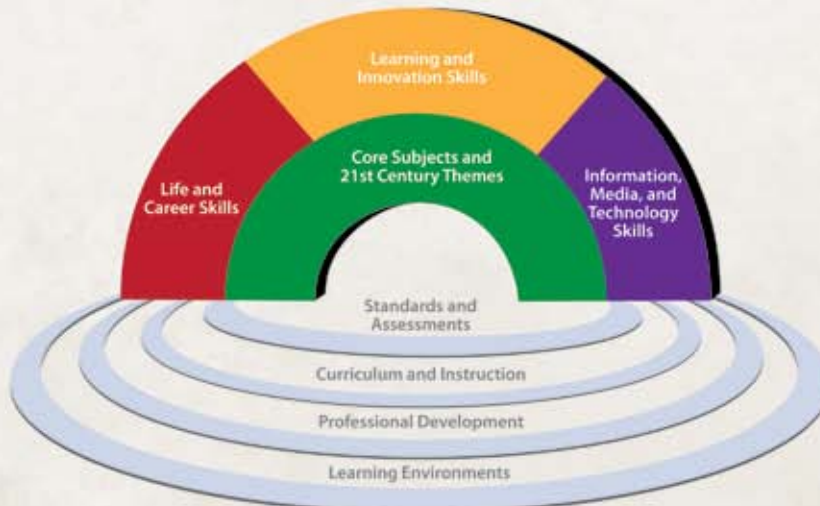
The following graphic, borrowed from 21<sup>st</sup> Century Skills (*Trilling and Fadel, 2009*), illustrates the shift from a teacher-directed model to a learner-centred environment.



21<sup>st</sup> Century Skills (*Trilling and Fadel, 2009*)



Each of the key elements that need to shift has been clearly identified in 21<sup>st</sup> Century related research and literature. A graphic developed by the Partnership for 21<sup>st</sup> Century Skills, and provided below, effectively represents the relationship between 21<sup>st</sup> Century skills *student outcomes* (as represented by the arches of the rainbow) and 21<sup>st</sup> Century *skills support systems* (as represented by the pools at the bottom).



*Image from Partnership for 21<sup>st</sup> Century Skills*

While the shift in each of the areas represented by the graphic will naturally have to occur over time, the faster it occurs the more relevant public education will be to today's learners. The challenge will be twofold: to introduce the changes in each of the shift elements in a highly integrated fashion, and to balance the pace of these shifts with the capacity of the system to accept and absorb them. With respect to the role of ICT, we believe that the proper and systemic integration of ICT into public education will enable the shift to occur faster, as well as facilitate the twin objectives of more fully engaging learners and improving student achievement in the targeted areas.

## Key Shift Elements

As noted above, the *key shift* elements actually reflect public education's core business areas, with each one needing to be considered as we shift to a 21<sup>st</sup> Century learning model. NB3-21C is a three-year plan with an overall vision, a goal and a set of specific objectives related to each of the aforementioned elements.

## Vision

A 21<sup>st</sup> Century learning model for the Anglophone Sector of public education in New Brunswick

## Goal

Shift to a 21<sup>st</sup> Century learning model in three years.

# Element 1: Curriculum

21<sup>st</sup> Century learning outcomes focus on enduring concepts and skills to allow time for deeper learning

Strategy Colours

In Progress

Ready to Launch

Research Stage

## Objective 1

To ensure provincial curricula include clearly defined outcomes and 21<sup>st</sup> Century competencies with related performance standards

## Strategies

- Streamline curriculum documents to include clear outcomes, 21<sup>st</sup> Century competencies and related performance standards. Teacher companion documents that include instructional strategies, student exemplars and assessment tasks will supplement the curriculum documents and be accessible digitally. The goal is to create fully interactive curriculum documents with a mechanism for regular maintenance; in the interim, printable versions will be available.
- Create “look-for” documents for each curricular area, which define effective instructional practices.
- Develop a process that leverages information communications technology (ICT) to engage teachers, administrators and students in the revision of curricula.
- Capture video of professional development (PD) experiences that support the introduction of new curricula so that they can be revisited and used later with educators new to the curriculum.
- Define a curriculum-review process that includes integration of 21<sup>st</sup> Century competencies, reduction in the number of outcomes, identification of cross-curricular outcomes and targeting of deep understanding and relevant learning
- Facilitate transition from print to electronic resources to support achievement of curricular outcomes as such resources and ICT become readily available.
- Review and revise graduation requirements—including local options, challenge for credit courses and independent study—to reflect essential skills, knowledge and 21<sup>st</sup> Century competencies.
- Review and revise practices for reporting student achievement.
- Support differentiated PD for the implementation of new curricula that addresses various audiences (e.g., teachers, school-based administrators).

*“Education systems can best support teachers by shifting public and government concern away from control over the resources and content toward a focus on outcomes and targeted interventions.”*

Andreas Schleicher



## Objective 2

To ensure curricula and related performance standards provide educators with support to address individual learner needs

### Strategies

- Develop a series of guides that presents differentiation strategies in core subject areas.
- Continue to build capacity in major evidence-based interventions.
- Apply Universal Design for Learning as a principle in all curricula. This approach addresses designing instruction for diverse learners to achieve curriculum outcomes.
- Investigate electronic models of learning profiles that capture student strengths, needs and affinities with the intent of informing instructional practice and encouraging student engagement.



## Element 2: Instructional Practices

Learning experiences are inquiry-based, student-driven, meaningful and personalized.

Strategy Colours

In Progress

Ready to Launch

Research Stage

### Objective 3

To ensure educators are highly skilled in instructional practice—including 21<sup>st</sup> Century pedagogy—to support the development of a deep understanding of learning outcomes for all students.

### Strategies

- Continue to build capacity in major evidence-based instructional strategies.
- Invite more educators and district leaders to be directly involved in curriculum development; all curriculum documents will be on the Education Portal one year in advance of implementation to allow greater input.
- Build teachers' instructional capacity to use ICT to enhance student learning.
- Assist school-based educators and district leaders in the selection of core and supplementary resources. Provincial curriculum committees will review resources and provide results to school districts to inform the selection process.
- Develop a process, employing ICT, to ensure educators understand learning outcomes as new curricula are implemented.
- Involve educators in the posting and moderation of electronically shared lesson plans to ensure a quality standard is maintained.
- Collaborate with teams of teachers in each district to develop expertise in curriculum design and program planning, enlisting support and input from various levels of stakeholders (educators, community members and global experts).





## Objective 4

To ensure instructional practice reflects engaging, personalized learning experiences and includes relevant cross-curricular connections

### Strategies

- Review current provincial instructional time guidelines for subject areas, with the goal of providing greater instructional flexibility.
- Encourage teaming of school, district and provincial personnel (curriculum and learning teams) to work collaboratively to implement curriculum as it pertains to specific students and their individual challenges (e.g., learning disabilities, enrichment, sensory impairment).
- Collaborate with district and school staffs to develop model cross-curricular units to be shared with all educators. Units will reflect high expectations for all learners and effective instructional and assessment practices.



## Element 3: Assessment

A balanced assessment system that measures mastery of 21<sup>st</sup> Century skills, is technology enhanced, personalized and rich in data

Strategy Colours

In Progress

Ready to Launch

Research Stage

### Objective 5

To incorporate authentic assessment practice with high-quality standardized testing to ensure assessment is systemically balanced

### Strategies

- Incorporate 21<sup>st</sup> Century competencies in the *Framework for Provincial Assessments*.
- Assessments (school, district and provincial) will incorporate 21<sup>st</sup> Century competencies into assessments at all grade levels.
- The main focus for 21<sup>st</sup> Century assessments is authentic assessment practice, which could include computerized adaptive testing, peer and self-assessment, e-portfolios and/or performance-based assessment.
- Design PD, including online modules, with districts to support classroom teachers in improving assessment practice specifically related to formative, summative and authentic assessment.
- Determine standards for student portfolios to demonstrate achievement of curriculum outcomes and proficiency in 21<sup>st</sup> Century competencies to parents, educators and prospective employers.
- Provincial assessments will focus efforts toward further development of selected-response items, constructed-response items and curriculum-embedded tasks that require students to analyze and problem solve.
- Develop standard-based item banks beginning with NB3 areas at the high school level to assist teachers in building common classroom assessments.



## Objective 6

To ensure a balance of technology-enhanced, formative and summative assessments are used to measure student mastery of 21<sup>st</sup> Century skills

### Strategies

- Explore the viability of implementing computer-based testing as a modality for administering assessments. Assessments will continue to be developed and scored by teachers.
- Integrate technology to provide timely, user-friendly student data and information to communicate effectively on student performance to a variety of users: students, parents, teachers, administrators and policy-makers.
- Explore new methodologies and technologies to support progress monitoring for all students, and to provide data on cohorts of students at all levels of the K-12 system.
- Review and revise practices for reporting student achievement.

## Element 4: Learning Environments

Flexible learning opportunities and spaces all within ICT-rich learning environments

Strategy Colours

In Progress

Ready to Launch

Research Stage

### Objective 7

To ensure schools and classrooms are ICT-rich learning environments with adequate technical support and infrastructure

### Strategies

- Research best practices in other jurisdictions for providing infrastructure to support bring-from-home technology.
- Ensure classrooms are provided with data projectors, interactive whiteboards and FM sound systems (K-8).
- Continue to provide assistive technology as required.
- Develop an implementation plan for widespread rollout of technology, including a refresh schedule, adequate technical support and updated infrastructure.
- Use technology to foster communication and collaboration, including electronic messaging, multimedia publishing, video conferencing, shared authoring tools and social networking applications.
- Provide mobile clusters of netbook computers for all Grade K-5 classrooms.
- Explore options to provide all students in Grades 6-12 with 1:1 access to netbook computers.
- Support teachers through online PD opportunities and resources in the use of technology to enhance learning, including the use of assistive technologies.
- Create and equip media centres in schools for media production.
- Design and implement a centralized online technology mentorship model to support teachers.





## Objective 8

To ensure schools have flexible physical spaces and organizational structures

### Strategies

- Update building specifications for new construction and renovations.
- Research options for organizational structures (school calendar, daily schedule, faculty, etc.) to maximize learning opportunities, use available resources efficiently and enable the provision of more collaboration and PD time for teachers.
- Develop a provincial inventory of current facilities and an asset management plan to guide decisions relative to the annual capital budget.

## Objective 9

To ensure opportunities are provided for personalized anytime-anywhere learning for students and teachers

### Strategies

- Provide virtual PD opportunities for educators (e.g., virtual conferences, visitations, events and online resources).
- Leverage technology that permits students to have more control of their learning opportunities and addresses individual talents, strengths, interests and challenges.
- Create a distributed learning network to support PD for educators, academic program delivery for students, and the provision of support services.
- Explore technologies that support the preparation of portfolios, the presentation of learning, and the portability of student demonstrations of achievements and competencies.
- Restructure the current online learning program based on research into best practices of virtual high schools in multiple jurisdictions.
- Examine options for acquiring, developing and accessing online courses and content for students and educators.

“The world is finally accepting the inevitability of the 1:1 computer model in the classroom.”

Bruce Dixon, Anytime Anywhere Learning Foundation

# Element 5: Professional Learning

## New teaching standards and a pre-service accreditation program

Strategy Colours

In Progress

Ready to Launch

Research Stage

### Objective 10

To ensure professional learning throughout the province is focused, personalized, effective and standards-based

**Note:** Suggested strategies are in alignment with the *NB3-21C School Improvement Indicators* document, particularly the areas of professional learning, staff relationships, and instructional practice and curriculum.

### Strategies

- Work collaboratively at school, provincial, district, professional association and university levels to plan coherent and job-embedded professional learning opportunities for New Brunswick educators. Monitor effective application of learning (processes to be determined).
- At school and district levels, develop job-embedded, intensive and personalized PD opportunities for teachers that focus intentionally on NB3-21C competencies and effective instructional and assessment practices.
- Develop excellence in pedagogy, integrating it with ICT, technology-based tools and web-based resources as a part of whole-class, group and individual student activities. (see the United Nations Educational, Scientific and Cultural Organization (UNESCO) *ICT Competency Standards for Teachers*).
- Using established approaches of professional learning communities, develop specific 21<sup>st</sup> Century knowledge and skills in every school.
- Leverage the reach of the web to distribute resources; provide online PD for professionals and paraprofessionals; and build and maintain professional growth plans.
- Integrate NB3-21C competencies and effective instructional/assessment practices into the *Standards of Teaching Practice for Beginning Teachers* document; familiarize educators and leaders with these standards.
- Integrate NB3-21C competencies and effective instructional/assessment practices into teacher preparation programs, certification and continuing education.
- Engage Faculties of Education in New Brunswick to support teacher education that develops digital literacy and the use of ICT in preparation for professional responsibilities. (see the UNESCO *ICT Competency Standards for Teachers*)
- Develop at the department level a systemic continuous professional learning application to help individuals, schools, districts and the province build and manage areas of professional capacity, and determine areas of further need and focus.
- Create an evidence-based evaluation process for professional learning opportunities.
- Provide blended PD opportunities to educators and educational leaders, with the majority being available online with feedback data collected for future PD planning.



## Element 6: Educational Leadership

### Highly trained and empowered school leaders

#### Objective 11

To ensure leadership capacity is built individually, locally and provincially

**Note:** Suggested strategies are in alignment with the *NB3-21C School Improvement Indicators* document, particularly the areas of vision, mission and goals; educational leadership; professional learning; relationships; and instructional practice and curriculum.

#### Strategies

- Fully engage school leaders in the design of NB3-21C.
- Familiarize all current and prospective leaders with the *Standards of Practice for Educational Leaders*: The five standards are fostering school and community relations, being an instructional leader, creating a positive learning environment, driving the leadership potential of others and living the vision of learning.
- Provide opportunities for enhancing and developing leadership capacity, such as department and district Leadership Development modules; targeted educational leaves; New Brunswick Educational Leadership Academy (NBELA); and NB School Leadership Summits.
- Use an evidence-based evaluation process for leadership effectiveness building on the NB3-21C school improvement indicators and other data sources.
- Develop a community of mentors and coaches, focused on on-going professional support for leaders at all stages in their careers and supported by the implementation of an Atlantic resource-person database for education.
- Develop leadership teams from school, district, department, NBTA and other areas of expertise that circulate and whose membership rotates, to infuse 21<sup>st</sup> Century competencies throughout and across school districts.



## Element 7: Accountability

Empower school leaders within an NB standards-accountability model

Strategy Colours

In Progress

Ready to Launch

Research Stage

### Objective 12

To ensure school communities across the province share a common understanding of practices leading to school effectiveness and that these are in place in every school

### Strategies

- Develop and pilot a new School Improvement Service for provincial implementation in 2010-2011. This will be achieved using a self-monitoring tool based on provincial indicators of best practice with linked resources, aligned perception surveys, a new external school review process and support for school leadership teams.





### **Objective 13**

To ensure school communities, districts and the department have access to rich data sources and expertise for data analysis

#### **Strategies**

- Compile provincial and regional profiles of child and youth service requirements using data housed in several departments as part of the new Integrated Service Delivery Model for Children and Youth.
- Improve data analysis capacity to better inform decision making at all levels to allow for personalized learning for students.
- Provide schools with an updated, user-friendly student information system to provide longitudinal information to help students as they move through the K-12 system.
- Provide a program evaluation service to ensure provincial initiatives are effective and meeting their objectives.

### **Objective 14**

To ensure school districts enhance and sustain processes to maintain effective school practices consistent with provincial standards

#### **Strategies**

- District and school staff members are provided with feedback, data and PD based on the school improvement review results.
- A district review process based on collectively identified indicators of best practice is developed in collaboration with school districts.

## Corporate Actions

A number of corporate actions require key shifts to ensure the proper foundation on which to build NB3-21C. These actions include:

- A review of the Anglophone Sector's funding formula to ensure funding allocations are consistent with the NB3-21C agenda, including providing enhanced autonomy to local schools.
- Pursue an ICT network that allows people in the education system to access information on the Internet with whatever ICT device they prefer.
- A review of the Department of Education's current policy framework to ensure compatibility with the NB3-21C agenda.
- Continue to engage students, parents and communities, along with teachers and administrators in the pursuit of NB3-21C and to develop online and offline means to share the shift of New Brunswick's public education system to a 21<sup>st</sup> Century learning model.





# Anglophone Sector Summary of Accountability Report

The Accountability Report describes the progress of the Anglophone Sector with respect to identified standards ("targets" in the following tables). In the months ahead, additional standards will be designed relating to the 21<sup>st</sup> Century competencies identified in this document. Consultation with educators will be essential in the development of these new standards and the means by which progress on them will be measured.

**Green:** At target and stable or improving

**Blue:** Below target and stable or declining

**Yellow:** At target and declining; below target but improving

**No Colour:** Baseline: no previous data available

## School Readiness

Target	Measure	2008	Percentage Point Change from 2007	Status
All kids come to kindergarten school-ready.	% of students at risk – <i>Teacher's School Readiness Inventory</i>	20.3%	+0.8	Below Declining
80% of kids identified as requiring a Special Education Plan for kindergarten have the plan in place upon arrival in September.	% who have plan in place on first day – <i>Kindergarten Teacher Survey</i>	34%	Baseline	
90% of parents of children entering kindergarten participate in the I'm Ready for School Initiative.	% participating in parent sessions – <i>School Administrators' Survey</i>	85%	+5	Below Improving

## Academic Achievement

Target	Measure	Reach Standard		Exceed Standard	
		2008	Percentage Point Change from 2007	2008	Percentage Point Change from 2007
90% of kids reach the reading standard at Grade 2 and again at Grade 4; 20% exceed it.	G2 Reading – <i>Provincial Examination</i>	80%	+6	23%	+2
	G2 Reading FI – <i>Provincial Examination</i>	85%	+2	37%	+7
	G4 Reading – <i>Provincial Examination</i>	79%	+4	23%	+1
	G4 Reading FI – <i>Provincial Examination</i>	71%	-5	13%	-1
90% of kids reach the numeracy standard at Grade 3 and again at Grade 5; 20% exceed it.	G5 Math – <i>Provincial Examination</i>	59%	-6	22%	-6

Target	Measure	2008	Percentage Point Change from 2007	Status
85% of students reach or exceed the standard in Grades 6-12 on provincial assessments of literacy, numeracy, and science.	G7 Reading – <i>Provincial Examination</i>	67%	+1	Improving
	G7 Writing – <i>Provincial Examination</i>	52%	+5	Improving
	G8 Numeracy – <i>Provincial Examination</i>	59%	+2	Improving
	G6 Science – <i>Provincial Examination</i>	56%	Baseline	
First Nations students achieve at levels comparable with their peers on provincial exams.	G2 students experiencing difficulty reading – <i>Department of Education</i>	FN: 19% Angl: 18%	FN: -18	At target
	G7 students experiencing difficulty reading – <i>Department of Education</i>	FN: 50% Angl: 33%	FN: -4	Below Improving
70% of high school graduates are able to function effectively in speaking their second official language.	Performance on French language assessments (average of Core and French Immersion performance) – <i>Department of Education</i>	36%	+2	Below Improving

NOTE: During July and August 2010, this section of the Accountability Report will be revised to incorporate targets and measures relating to 21st Century competencies.

Target	Measure	Ranking among provinces	Status
The top 20% of New Brunswick (NB) students on literacy, numeracy, and science assessments achieve at a level comparable with their peers in Canada's top three provinces.	Performance in literacy – <i>PISA</i>	10 <sup>th</sup> in 2000	Below
	Performance in numeracy – <i>PISA</i>	9 <sup>th</sup> in 2003	Below
	Performance in science – <i>PISA</i>	10 <sup>th</sup> in 2006	Below
NB ranks among the top three in the country on national and international assessments in literacy, numeracy and science.	Performance in literacy – <i>PISA</i>	10 <sup>th</sup> in 2000	Below
	Performance in numeracy – <i>PISA</i>	9 <sup>th</sup> in 2003	Below
	Performance in science – <i>PISA</i>	10 <sup>th</sup> in 2006	Below



## Supports for Students

Target	Measure	2008	Percentage Point Change from 2007	Status
90% of students and parents report that students receive the services they need to support their learning.	Student responses – <i>Student Perception Survey, 2008</i>	60%	+1	Below Improving
	Parent responses – <i>Parent Perception Survey, 2008</i>	76%	+3	Below Improving
80% of students with Special Education Plans are meeting identified learning outcomes, and interventions are in place for the remaining 20%.	% of students with SEPs meeting 85% or more of their learning outcomes – <i>e-SEP database, NB Department of Education</i>	69%	+1	Below Improving
An increasing percentage of teachers report that gifted students are given the opportunity to reach their full potential at school	Teacher response – <i>Teacher Perception Survey, 2008</i>	46%	+2	Improving
An increasing percentage of principals report a growing level of support from the community and the private sector.	Number of community schools operating – <i>Department of Education</i>	35%	0	On track

## Student Wellness

Target	Measure	2008	Percentage Point Change from 2007	Status
The percentage of students who are considered to be active enough for optimal growth and development increases by 10 percentage points.	Student response – <i>NB Student Wellness Survey, 2008</i>	52%	Baseline	
An increasing percentage of students in Grades 6-12 report they feel safe and belong in their school; the level of safety reported by students with particular learning challenges is comparable to the level reported by other students; bullying behaviours decrease steadily in NB schools.	Students reporting they feel safe at school – <i>NB Student Perception Survey</i>	78.4	-0.5	Declining
	Students with special needs reporting they feel safe at school – <i>NB Student Perception Survey</i>	72.5	-2.8	Declining
	Bullying behaviours decrease – <i>School administrative data</i>	4,705	+41 (incidents)	Declining
100% of schools have adequate emergency preparedness plans and lock-down procedures in place, in collaboration with appropriate authorities.	Emergency plans in place – <i>School-reported data</i>	100%	0	At target
	Lock-down procedures in place – <i>School-reported data</i>	100%	0	At target

## Preparation for Post-Secondary Education and Life

Target	Measure	2008	Percentage Point Change from 2007	Status
NB's post-secondary participation rate is among the top three in Canada, and an increasing proportion obtains a post-secondary credential.	Participation rate – <i>Statistics Canada</i>	31%	-3	Declined
		6 <sup>th</sup> in Canada in 2008-09	5 <sup>th</sup> in Canada in 2006-07	
NB is in the top three provinces in Canada for high school graduation.	Graduation rate – <i>Statistics Canada</i>	81%	-4.7	At target Declined
	Graduation rate – <i>Statistics Canada</i>	3 <sup>rd</sup> in Canada in 2006-07	2 <sup>nd</sup> in Canada in 2005-06	
90% of high school graduates report that they intend to vote in the first election for which they are eligible (federal, provincial, municipal).	Student response re: federal election – <i>Student Exit Survey</i>	77.8%	+3.1	Improving
	Student response re: provincial election – <i>Student Exit Survey</i>	78.4%	+3.3	Improving
	Student response re: municipal election – <i>Student Exit Survey, 2008</i>	72.9%	+1.8	Improving
90% of graduates report they have had opportunities to take courses in the trades, the arts, or co-op or volunteer experience.	Student response: courses in trades – <i>Student Exit Survey, 2009</i>	58.7%	+5	Below Improving
	Student response: courses in the arts – <i>Student Exit Survey, 2009</i>	83.9%	+0.06	Below Improving
	Student response: co-op experience – <i>Student Exit Survey, 2009</i>	63.1%	-1.5	Below Declined
	Student response: volunteering – <i>Student Exit Survey, 2009</i>	62.8%	-0.1	Below Stable

## Educators

Target	Measure	2008	Percentage Point Change from 2007	Status
90% of teachers report they have been successful in integrating technology in teaching their students.	Teacher responses – <i>Educational Staff Record</i>	88%	+1	Below Improving
An increasing percentage of principals report higher levels of innovative teaching and learning in their schools.	Principal response – <i>Principal survey, 2009</i>	80%	Baseline	



# What People are Saying about New Brunswick's Vision for Education in the 21st Century

I think it shows extraordinary depth in your preparation for the initiative, and reflects most positively on the team that has been working on its development under your leadership.

New Brunswick has the real potential to be a world leader in addressing this most critical issues of [student access to technology]..and more importantly the pedagogical benefits and learning opportunities that flow from such access.

**Bruce Dixon** *President*  
Anytime Anywhere  
Learning Foundation

... it appears that New Brunswick Ministry of Education not only has done the hard work to create an articulate vision for the role of ICT in education in delivering 21<sup>st</sup> Century skills, but that you are making significant progress in making that vision a reality.

**Greg Butler**  
*Worldwide Education*  
Strategy Director  
Microsoft Corporation

NB3-21C builds a compelling case for shifting your system to a 21<sup>st</sup> Century model of learning. The emphasis on integrating 21<sup>st</sup> Century competencies and identifying the most relevant outcomes for students, while providing a digital learning environment to enable the learning, is laudable.

... NB3-21C contains the right focus and the right key "shift" elements to ensure your system's relevance to today's digital students. New Brunswick is building a global reputation in the field of 21<sup>st</sup> Century learning.

**Charles Fadel** *Global Lead, Education*  
Cisco Systems, Inc.

...the fact that your school system has the foresight to address these issues has motivated me to try to bring attention to the same issues to university educators in Japan.

**J. Scott Shinall** *Asst. Professor*  
Kansai Gaidai University  
Japan

...the Department of Education understands the challenge, has a vision, and is doing a great job of articulating it. Let's see what we can do about helping whomever it is make it a reality.

**Larry Sampson** *Executive Director*  
New Brunswick Information Technology Council  
(online from the Telegraph Journal - May 3, 2010)